SUBJECT INDEX

b – Book review *c* – Correspondence *r* – Conference report

Actinomycete spores
  identification and counting 241–248
  occupational exposure to 515–533
Agriculture,
  exposure to spores in 521–522
  See also Farm buildings; Sugar cane
AIDS, and occupation 69–82
Air sampling
  for dust control assessment 45–46
  of ammonia, field methods 399–404
  of bacteria 104
  of cotton dust 104–105
  of fungal spores 241–248
  of protease aerosols 499–508
  of vinyl acetate in air 405–410
Air sampling instruments
  cyclones 419–421
  diffusive 333–343, 399–404
  for highly-charged droplets 453–460
  impactors 241–248
  konimeters 427–428*c*
  on-line biosensor 499–508
  personal respirable dust 129–143
  sampling tubes 405–410
Air sampling theory, non-spherical particles 221–234
Allergens, occupational 515–533
Aluminosilicate fibres, *See* Ceramic fibres
Alveolitis, allergic, fungi and actinomycetes implicated in 518–521
Ammonia, analysis in ambient air 399–404
Analytical methods
  for ammonia 399–404
  for azodicarbonamide 203–206
  for metal hydrides 385–397
Andersen impactor, sampling fungal spores 241–248
Animal experiments, design and analysis 254–255*b*
Animal fibres, confusion with chrysotile in bulk samples 545–547
Antimony, *See* Stibine
Arsine, determination 385–397
Asbestos
  clearance
    automated sample analysis 115–128
    certification 423–426
  degradation of charged filters 279–294
  environmental health criteria 433–434*b*
  personal exposure during clearance certification 423–426
  See also Chrysotile
Aspergillus sp. spores, identification and counting 241–248
Asthma occupational
  fungi implicated in 517–518
  microbial products exposure 526–527
Azodicarbonamide, sampling and analysis 203–206

Bacteria,
  airborne, in textile mill 105–109
  See also Actinomycete spores
Best practicable means (BPM) 264–265
Biological monitoring
  mercury in urine 83–93
  organic chemical exposure 435–438*b*
  PAH 35–43
Birth defects and chemical exposure 440–441*b*
Blowing agent, plastics processing 203–207
Brazing fume, composition 489–497
Brick dust, degradation of charged filters 278–294
British Occupational Hygiene Society (BOHS)
  conferences
    annual 1987 1–19, 35–82, 147–150, 241–248, 489–497
    annual 1988 261–270, 295–315, 445–449, 515–533, 549–551
    respiratory protective equipment 147–150
  Hygiene standards, cotton dust 111–112
  President 1988–1989: F.S. Gill 259–260
Bulky samplers, non-spherical partical aspiration 221–234
Byssinosis
  and airborne dust concentrations 105–113
  in 'hard fibre' ropeworks 249–251

Cadmium
  and cancer 557–560*r*
  temperature effect on emission during brazing 497
Caissons, radon daughter levels in 317–323
Cancer
  and asbestos 433–434*b*
  and cadmium 557–560*r*
  and MMMF 430*c*
  and tobacco 442–443*b*
  research, statistical methods 254–255*b*
Carcinogenicity
  of silica and silicates 255–256*b*
  of welding fume 191–202

Ceramic fibres
airborne, size distribution 237–240
devitrification 171–178
Chemicals
organic, biological monitoring 435–438*b*
processing, health hazard control 561–562*b*
short-term exposure evaluation 21–33
Chromium, cytotoxicity 98–99
Chrysotile, confirmatory test for bulk sample identification 545–547
CIP 10 dust sampler 129–143
Cleaners, dust exposure at construction sites 215–220
Coal dust, degradation of charged filters 278–294
Coke-oven fume, degradation of charged filters 279–294
Cold/wet environments, protective clothing for 549–550
Construction sites, cleaners' dust exposure 215–220
Contaminated land, occupational hygiene 209–213
Cotton dust
and byssinosis 103–113
personal *cf.* work zone concentrations 105–113
Counting precision, mould spores 471–479
Creosote impregnation, and PAH exposure 36–37
Cristobalite formation 171–178
Crop spraying, operator exposure 451–561
Cyclone sampler, test for leaks 419–421

Damping of exposure to chemicals 21–33
Devitrification of ceramic fibres 171–178
Dichloroethane, environmental health criteria 253–254*b*
Diesel exhaust, and PAH exposure 39–40
Diffusive samplers
for ambient ammonia 399–404
thick sorbent 333–343
Displacement ventilation, air exchange efficiency 481–488
Drilling fluids, hazards and control 325–332
Dust control
assessment 45–46
in construction site cleaning 219
techniques 45–57
Dust index scale 542–544
Dustiness estimation technology 535–544
Dusts, and respiratory disease 438–439*b*

Education, occupational hygiene 18–19, 411–417
Electrodyn crop sprayer, operator exposure 451–561
Endotoxins
airborne, in textile mill 105–109
and lung disease, 553–556*r*
Environmental pollution control 261–270
Environmental tobacco smoke, analysis and measurement 442–443*b*
Enzymes, proteolytic, on-line detector for 499–508
European Community, ERASMUS programme 411–417
Exposure limits
ionizing radiation 253*b*
oil-based drilling fluids 328
USA 446–449
Exposure variability, physiological damping 21–33

Farm buildings
ammonia levels in 399–404
fungal spores in 243–247
Feet, protection in cold/wet environments 550–551
Fibre sample evaluation, automated, clearance samples 115–128
Filters
effect of aerosol loading on 271–294
efficiency
aerosol type effect 271–294
filtration velocity effect 304–315
moisture effect 315
particle size effect 301–315
electrostatically-charged materials for 271–294
nuclepore, counting of spore samples on 471–479
Fire retardants/extinguishants, pyrolysis products 463–470
Food processing, fungal and actinomycete spores exposure 523–524
Foundries, jobbing, airborne lead in 145–146
Foundry dust, degradation of charged filters 278–294
Fungal spores
counting 241–248, 471–479
identification 515–533
occupational exposure to 515–533

Galvanizing, hot dip, air emissions 179–189
Gas chromatography/mass spectrometry, analysis of pyrolysis products 463–470
Gasworks, site redevelopment 210–213

Hazard Communication Standard (USA) 446–447
Health and safety, directory 151*b*, 564–565*b*
Human factors, and occupational hygiene 4–11
Human immunodeficiency virus (HIV), and occupation 69–82

Institute of Occupational Hygienists, asbestos clearance certification code 423–426
International Occupational Hygiene Association (IOHA) 257–258

Konimeters, sampling characteristics 427–428[c]

Landfill sites, occupational hygiene 209–213
Lead, airborne, in jobbing foundry 145–146
Lead-bearing aerosols, degradation of charged filters 279–294
Leather fibres, confusion with chrysotile in bulk samples 545–547
Legionnaires' disease 59–61, 63–67
Legislation, USA 446–449
Local exhaust ventilation (LEV)
  flow models, circular hoods 373–384
  performance assessment 46–55

Macrophages, and welding fume particulate 95–102
Magiscan, for clearance samples 114–125
Magnetic fields, environmental health criteria 434–435[b]
Man-made mineral fibres (MMMF), and cancer 430[c]
Manchester Asbestos Program (MAP), clearance and low density samples 115–128
Mass spectrometry, identification of pyrolysis products 463–470
Material safety data sheets 446–449
Mercury analysis in urine, quality assurance 83–93
Microbial products, causing occupational asthma 526–527
Mineral fibres
  and respiratory disease 438–439[b]
  environmental health criteria 433–434[b]
Monitoring, oil-based drilling fluids 328–330
Mould spores, aggregation effect on counting 471–479
Mullite formation 171–178
Mushroom farms, exposure to spores 522–523

Nuclepore filter sampling, fungal spores 241–248

Occupational diseases, early detection 151–152[b]
Occupational exposure, to fungal and actinomycete spores 520–527
Occupational hygiene
  education 18–19, 411–417
  international cooperation 411–417
  philosophy 1–19
Occupational lung diseases 563–564[b]
Occupational safety and health
  in USA 445–449
  international cooperation 445–449
Oil-based drilling fluids, hazards and control 325–332
Organic toxic dust syndrome 517

Paint shops, organic solvent levels in 509–513
Paints, pyrolysis products 463–470
Passive smoking, analysis and measurement 442–443[b]
Penicillium sp. spores, identification and counting 241–248
Personal samplers, respirable dust 129–143
Pesticide spraying, operator exposure 451–561
Physiological damping, exposure variability 21–33
Plastics processing, azodicarbonamide concentrations 203–207
Pollution control 261–270
Polycyclic aromatic hydrocarbons (PAHs)
  biological monitoring 35–43
  in sugar-cane harvesting 155–165
Pontiac fever 59–61
Poultry houses, amonia levels in 399–404
Printing inks, and PAH exposure 40–41
Printing plant, displacement ventilation in 481–488
Protease aerosol detection system 499–508
Protective clothing
  cold/wet environments 549–551
  oil-based drilling fluids 331–332
Pyrolysis products, of fire retardants/extinguishants 463–470

Quality assurance scheme, mercury in urine analysis 83–93
Quality management, and occupational hygiene 6–8
Quartz exposure, construction site cleaners 215–220

Radiation, ionizing, exposure limits 253[b]
Radon daughters
  indoor exposure 440[b]
  levels in caissons and tunnels 317–323
Redevelopment of contaminated land, occupational hygiene 209–213
Respirable dust, personal sampler for 129–143
Respiratory diseases
  and dusts 438–439[b]
  and endotoxin 553–556[r]
  occupational 563–564[b]
Respiratory protective equipment (RPE)
  and dust exposure control 55–57
  asbestos clearance certification 423–426
  conference 147–150
  economics 149–150
  effectiveness 149–150
  electrostatic filter degradation 271–294
  filtration efficiency 271–294, 295–315
  full-facepiece 361–372
  half-facepiece 345–359
  in-facepiece sampling bias 345–359, 361–372
  nuisance dust masks 295–315
  selection 148–149
Roadworkers, PAH exposure 37–39
Ropeworks, byssinosis in 249–251

Sampling tubes, for vinyl acetate in air 405–410
Scanning electron microscopy (SEM), evaluation of fungal spores 241–248
Silica
  carcinogenic risk 255–256[b]
  dust, degradation of charged filters 278–294
  fibres, in sugar-cane harvesting 153–169
Silicates
  carcinogenic risk 255–256[b]
  See also Asbestos; Ceramic fibres
Simpeds sampler, test for leaks 419–421
Sisal, and byssinosis 249–251
Sister chromatid exchange (SCE), induction by welding fume particulate 191–202
Smoking, health hazards 442–443[b]
Solvents, air levels in vehicle paint shops 509–513
Sorbents, for diffusive samplers 333–343
Spores
  aggregation of 471–479
  counting 241–248, 471–479
  identification 241–248
  occupational exposure to 515–533
Spraying, charged droplets 451–561
Standards, setting 5–6
Stannane, determination 385–397
Statistical methods, survival data analysis 254–255[b]
Stibine, determination 385–397
Stress, occupational 430–432[b]
Submarine escape immersion suit 549–550
Sugar-cane harvesting, silica fibres and PAH exposure 155–165

Teratogens 440–441[b]
Textile industry, airborne dust concentrations 105–113
Tin *See* Stannane
Tobacco, health hazards 442–443[b]
Toluene, air levels in vehicle paint shops 509–513
Tracer gas, air exchange efficiency measurement 481–488
Transmission electron microscopy (TEM), size distribution of airborne ceramic fibres 237–240
Tunnels, radon daughter levels in 317–323

Vehicle manufacture, hazardous materials control 562–563[b]
Vehicle paint shops, organic solvent levels in 509–513
Ventilation, *See* Displacement ventilation; Local exhaust ventilation
Ventilation rate, measurement by age analysis 481–488
Vinyl acetate, determination in air 405–410

Waste composting, fungal and actinomycete spores exposure 523
Welding fume particulate
  cytotoxicity 95–102
  sister chromatid exchange induction 191–202
Wet/cold environments, protective clothing for 549–550

Xylene, air levels in vehicle paint shops 509–513

Zinc compounds, exposure in hot-dip galvanizing 179–189

AUTHOR INDEX

b – Book review *c* – Correspondence *r* – Conference report

Aalen, O. 471
Allender, J.R. 345, 361
Andersson, B. 405
Andersson, K. 405
Anzion, R.B.M. 35
Arkesteyn, C.W.M. 95
Audisio, G. 463

Bailey, S. 423
Baker, K. 549
Bakker, G.L. 191
Baril, M. 179
Barraclough, N. 151*b*
Bartley, D.L. 333
Behizad, M. 499
Bellaby, P. 431*b*
Blackford, D.B. 271
Boeniger, M. 153
BOHS Technology Committee Working Party on Dustiness Estimation 535
Bord, B.S. 561*b*
Bos, R.P. 35
Bostock, G.J. 271
Brazier, A.M. 63
Breum, N.O. 481
Briggs, G. 171
Brouns, R.M.E. 35
Brown, R.C. 271, 295
Burrell, R. 553*r*

Churchyard, M.P. 545
Cinkotai, F.F. 103
Conchie, A. 423
Copeland, G.K.E. 545
Courbon, P. 129
Crook, B. 515
Cumming, R.H. 499

Davidson, R.G. 325
Davies, K.M. 535
Dawson, J. 69
De Medinilla, J. 509
De Raat, W.K. 191
Donaldson, K.D. 438*b*
Doretti, L. 463
Dufresne, A. 179
Duggan, M.J. 253*b*, 440*b*
Dunnett, S.J. 221

Eduard, W. 471

Ellison, J.McK. 147*r*, 564*b*
Elwood, J.H. 249
Elwood, P.C. 249
Espigares, M. 509
Evans, M.J. 325

Fabries, J.-F. 129
Faragher, E. 103
Flynn, M.R. 373

Gerhardsson, G. 1
Gray, R. 271
Greenough, G.K. 45

Hamlin, J.W. 325
Hammond, C.M. 535
Hancox, R. 434*b*
Harper, M. 209
Hawkins, M. 153
Heikkilä, P. 241
Henderson, P.Th. 35
Hewitt, P.J. 489
Hiett, D.M. 423
Higman, R.W. 535
Holroyd, D. 171
Hooftman, R.N. 95
Hughson, G.W. 451

Ingham, D.B. 221
Ingle, J. 145
Iskander, W. 345

Johnston, A.M. 451
Jones, A.D. 438*b*, 451
Jones, D.G. 145
Jongeneelen, F.J 35
Jordan, B. 419

Kenny, L.C. 115
King, E. 435*b*
Knight, G. 427*c*
Kotimaa, M. 241
Kurtz, J.B. 59

Lacey, J. 515
Lam, W.K. 317
Lauzon, J. 179
Lewis, P.J. 83
Louhelainen, K. 241

McCallum, R.I. 151*b*
Madalosso, F. 463
Manninen, A. 399
Marsin, P. 153
Michaud, D. 179
Miller, B.G. 254*b*
Miller, C.T. 373
Money, C.D. 411
Morgan, D.R. 69
Moulin, J.J. 430*c*
Mugridge, T.J.G. 549
Muir, D.C.F. 428*c*
Myers, W.R. 345, 361

Newman, R. 153
Newman, R.H. 255*b*, 433*b*, 442*b*
Ng, T.P. 317
Nijenhuis, E.H. 35

Oakley, E.H.N. 549

Parsons, J.T. 419
Pedersen, B. 385
Pendergrass, J.A. 445
Perrault, G. 179
Pfäffli, P. 203
Pickering, C.A.C. 103
Ponsford, B. 261
Posner, J.C. 333

Rappaport, S.M. 21
Rea, M.S. 171
Renwick, J.H. 440*b*
Riala, R. 215
Rood, A.P. 237
Rossini, A. 463
Rowell, F.J. 499
Rowles, S. 209
Roy, C. 179
Roza, P. 95
Rylander, R. 553*r*

Salmi, T. 241
Saunders, K.J. 325
Scheepers, P.T.J. 35
Seaborn, D. 103
Sebestyen, A. 428*c*
Sharratt, M. 253*b*, 562*b*

Soutar, C.A. 563[b]
Spear, R.C. 21
Stanley, C. 345
Sullivan, K. 557[r]
Sykes, J.J.W. 145
Sykes, J.M. 63

Thomas, C. 423
Thomas, H.F. 249
Thorne, B.D. 489
Traldi, P. 463
Tsin, T.W. 317
Tuomi, T. 241

Vainiotalo, S. 203
Veenstra, S.J. 35
Verma, D.K. 428[c]

Wake, D. 271, 295
Walters, D.R. 411
Waterman, L. 557[r]
Wells, A.B. 535
Winkes, A. 35
Woebkenberg, M.L. 333
Wright, A.L. 83
Wrobel, K. 129

Young, J. 171

THE ANNALS OF OCCUPATIONAL HYGIENE

NOTES FOR CONTRIBUTORS

1. Manuscripts intended for publication in the journal should be submitted to the Editor, Dr John McK. Ellison, Unit 21/22, Bridge Wharf, Caledonian Road, London N1 9RD.

2. It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the British Occupational Hygiene Society if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignments.

3. Authors should submit two copies of an original typed manuscript in *double spacing*. The text must be ready for printing, and any substantial changes in proof, other than typographical errors, may be charged to the authors.

4. Any Greek letters, or special symbols, should be identified in the margin the first time they occur on each page of the manuscript.

5. The paper should commence with an abstract of up to about 150 words.

6. Illustrations and Tables should not be inserted in the pages of the manuscript but should accompany the manuscript on separate sheets. The captions should be typed on a separate page at the end of the manuscript and not included in the text or under the illustrations.
   Half-tone illustrations should be kept to a *minimum*. If lettering must appear on a photograph two prints should be submitted, one clearly lettered and the other without inscription.
   Line drawings should be drawn clearly in indian ink if possible and about double the intended size. Lines should be thick enough to be clear when the illustration is reduced to a size suitable for inclusion in the journal. Lettering should be stencilled in indian ink or Letraset, again large enough for the necessary reduction, or alternatively written in pencil so that the draughtsman can reletter the diagram without having to redraw it entirely. Where possible, Tables will be directly reproduced. Original typed Tables are required (photocopies or carbons will not reproduce satisfactorily). The typing area should not be greater than 13 × 10 in. (33 × 25 cm); larger Tables should be typed on continuation sheets.

7. References: *in the text* these should be quoted in the form JONES (1950), JONES and BROWN (1950) or, if there are three or more authors, JONES *et al.* (1950). *In the reference list at the end of the paper* the names of *all* authors (surnames first, followed by initials) should be listed in alphabetical order, the title of the journal being abbreviated as in the *World List of Scientific Periodicals* (4th edition). Examples are:

   FRISBY, C. B. (1954) *Industrial Medicine and Hygiene* (Edited by MEREWETHER, A.), Vol. II, p. 16. Butterworths, London.
   HARRIS, C. M. (Editor) (1957) *Handbook of Noise Control*. McGraw-Hill, New York.
   MAY, K. R. (1975) Aerosol impaction jets. *J. Aerosol Sci.* **6**, 403–411.
   GIBSON, H. and VINCENT, J. H. (1981) The penetration of dust through porous foam filter media. *Ann. occup. Hyg.* **24**, 205–215.
   ROOKER, S. J., VAUGHAN, N. P. and LE GUEN, J. M. (1982) On the visibility of fibres by phase contrast microscopy. *Am. ind. Hyg. Ass. J.* **43**, 505–515.
   BS 2980 (1958) *British Standard for pure tone audiometers*. British Standards Institution, London.

8. Authors may obtain reprints by completing an order form which will accompany their proofs.

FREE Sample Copies Available On Request

ANNALS OF THE ICRP

Published on behalf of the International Commission on Radiological Protection

Scientific Secretary: **H SMITH,** *International Commission on Radiological Protection, PO Box No. 35, Didcot, Oxon OX11 0RJ, UK*

Founded in 1928, the International Commission on Radiological Protection has, since 1950, been providing general guidance on the widespread use of radiation sources caused by rapid developments in the field of nuclear energy.
The reports and recommendations of the ICRP are available as the review journal *Annals of the ICRP.* Subscribers to the journal will be assured of receiving each new report as soon as it appears, thus ensuring that they are kept abreast of the latest developments in this important field, and can build up a complete set of ICRP reports and recommendations.
Single issues of the journal are also available separately for those individuals and organizations who do not require a complete set of all ICRP publications, but would like to have their own copy of a report covering their own particular field of interest.

Subscribers to the journal save approximately 20% on the cost of purchasing single issues and may also purchase previous reports at a saving of 20% on the non-subscriber price.

A Selection of Recent Publications

No. 54: Individual monitoring for intakes of radionuclides by workers: design and interpretation.
No. 53: Radiation dose to patients from radiopharmaceuticals.
No. 52: Protection of the patient in nuclear medicine.
No. 51: Data for use in protection against external.
No. 50: Lung cancer risk from indoor exposures to radon daughters.
No. 49: Developmental effects of irradiation on the brain of the embryo and fetus.
No. 48: The metabolism of plutonium and related elements.
No. 47: Radiation protection of workers in mines.
No. 46: Radiation protection principles for the disposal of solid radioactive waste.
No. 45: Quantitative bases for developing a unified index of harm.
No. 44: Protection of the patient in radiation therapy.
No. 43: Principles of monitoring for the radiation protection of the public.
No. 42: A compilation of the major concepts and quantities in use by ICRP.
No. 41: Non-stochastic effects of ionizing radiation.
No. 40: Protection of the public in the event of major radiation accidents: principles for planning.

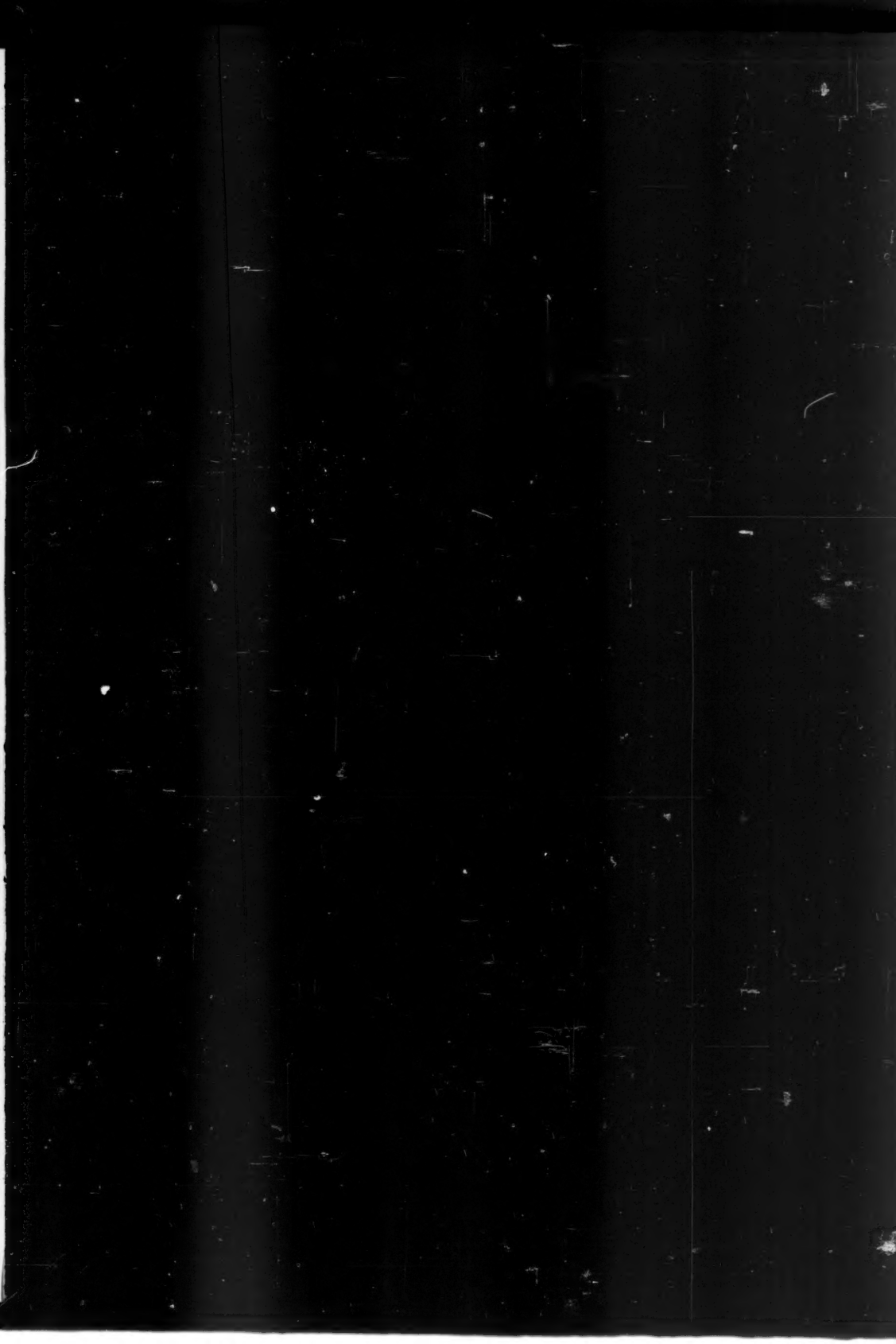
Subscription Information

1989: Volume 20 (4 issues)
Annual subscription (1989) **DM 250.00**
Two-year rate (1989/90) **DM 475.00**
ISSN: 0146-6453

Advertising rate card available on request. Back issues and current subscriptions are also available in microform.
The German Mark (DM) prices shown include postage and insurance, and apply in Europe, Africa, Asia/Australasia (with the exception of Japan). For the rest Of the world including Japan apply to the nearest Pergamon office. Prices are subject to change without notice.

Pergamon Press plc
Headington Hill Hall
Oxford OX3 0BW UK

Pergamon Press Inc
Fairview Park, Elmsford
New York, 10523 USA

9G/3/02/88

Typeset by Cotswold Typesetting, and printed in Great Britain at Aberdeen University Press